

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: **TBD**

Region: Fayetteville Regional Office
County: Robeson
NC Facility ID: 7800147
Inspector's Name: Joshua L. Harris
Date of Last Inspection: 08/23/2016
Compliance Code: 3 / Compliance - inspection

<p align="center">Facility Data</p> <p>Applicant (Facility's Name): Duke Energy Progress, LLC – W. H. Weatherspoon Plant</p> <p>Facility Address: Duke Energy Progress, LLC - W. H. Weatherspoon Plant 491 Power Plant Road Lumberton, NC 28358</p> <p>SIC: 4911 / Electric Services NAICS: 221112 / Fossil Fuel Electric Power Generation</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>				<p align="center">Permit Applicability (this application only)</p> <p>SIP: 02D: .0516, .0521, .1100 NSPS: n/a NESHAP: Subpart ZZZZ PSD: n/a PSD Avoidance: n/a NC Toxics: 02D .1100 112(r): n/a Other: CSAPR</p> <p>Removed: 02D .2400, CAIR</p>																																																			
<p align="center">Contact Data</p> <table border="1"> <tr> <td> <p align="center">Facility Contact</p> <p>R. Tyndall Lead EHS Professional (910) 341-4775 801 Sutton Steam Plant Road Wilmington, NC 28401</p> </td> <td> <p align="center">Authorized Contact</p> <p>Thomas A Hanes, General Manager 198 Energy Way Hamlet, NC 28345</p> </td> <td> <p align="center">Technical Contact</p> <p>Ann Quillian Sr. Environmental Specialist (919) 546-6610 PO Box 1551 Raleigh, NC 27602</p> </td> </tr> </table>				<p align="center">Facility Contact</p> <p>R. Tyndall Lead EHS Professional (910) 341-4775 801 Sutton Steam Plant Road Wilmington, NC 28401</p>	<p align="center">Authorized Contact</p> <p>Thomas A Hanes, General Manager 198 Energy Way Hamlet, NC 28345</p>	<p align="center">Technical Contact</p> <p>Ann Quillian Sr. Environmental Specialist (919) 546-6610 PO Box 1551 Raleigh, NC 27602</p>	<p align="center">Application Data</p> <p>Application Number: 7800147.16A Date Received: 11/22/2016 Application Type: Renewal Application Schedule: TV-Renewal</p> <p align="center">Existing Permit Data</p> <p>Existing Permit Number: 06094/T20 Existing Permit Issue Date: 10/26/2015 Existing Permit Expiration Date: 08/31/2017</p>																																																
<p align="center">Facility Contact</p> <p>R. Tyndall Lead EHS Professional (910) 341-4775 801 Sutton Steam Plant Road Wilmington, NC 28401</p>	<p align="center">Authorized Contact</p> <p>Thomas A Hanes, General Manager 198 Energy Way Hamlet, NC 28345</p>	<p align="center">Technical Contact</p> <p>Ann Quillian Sr. Environmental Specialist (919) 546-6610 PO Box 1551 Raleigh, NC 27602</p>																																																					
<p>Total Actual emissions in TONS/YEAR:</p> <table border="1"> <thead> <tr> <th>CY</th> <th>SO2</th> <th>NOX</th> <th>VOC</th> <th>CO</th> <th>PM10</th> <th>Total HAP</th> <th>Largest HAP</th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>26.40</td> <td>64.00</td> <td>---</td> <td>0.1020</td> <td>0.3650</td> <td>0.0379</td> <td>0.0245 [Manganese & compounds]</td> </tr> <tr> <td>2014</td> <td>20.90</td> <td>50.50</td> <td>---</td> <td>0.0900</td> <td>0.3400</td> <td>0.0352</td> <td>0.0226 [Manganese & compounds]</td> </tr> <tr> <td>2013</td> <td>5.50</td> <td>13.20</td> <td>---</td> <td>0.0400</td> <td>0.1300</td> <td>0.0096</td> <td>0.0087 [Dimethyl sulfate]</td> </tr> <tr> <td>2012</td> <td>6.40</td> <td>15.40</td> <td>---</td> <td>0.0400</td> <td>0.1600</td> <td>0.0112</td> <td>0.0102 [Manganese & compounds]</td> </tr> <tr> <td>2011</td> <td>1925.42</td> <td>759.05</td> <td>3.03</td> <td>25.58</td> <td>97.68</td> <td>104.28</td> <td>95.07 [Hydrogen chloride (hydrochlori)]</td> </tr> </tbody> </table>								CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP	2015	26.40	64.00	---	0.1020	0.3650	0.0379	0.0245 [Manganese & compounds]	2014	20.90	50.50	---	0.0900	0.3400	0.0352	0.0226 [Manganese & compounds]	2013	5.50	13.20	---	0.0400	0.1300	0.0096	0.0087 [Dimethyl sulfate]	2012	6.40	15.40	---	0.0400	0.1600	0.0112	0.0102 [Manganese & compounds]	2011	1925.42	759.05	3.03	25.58	97.68	104.28	95.07 [Hydrogen chloride (hydrochlori)]
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP																																																
2015	26.40	64.00	---	0.1020	0.3650	0.0379	0.0245 [Manganese & compounds]																																																
2014	20.90	50.50	---	0.0900	0.3400	0.0352	0.0226 [Manganese & compounds]																																																
2013	5.50	13.20	---	0.0400	0.1300	0.0096	0.0087 [Dimethyl sulfate]																																																
2012	6.40	15.40	---	0.0400	0.1600	0.0112	0.0102 [Manganese & compounds]																																																
2011	1925.42	759.05	3.03	25.58	97.68	104.28	95.07 [Hydrogen chloride (hydrochlori)]																																																
<p>Review Engineer: Russell Braswell</p> <p>Review Engineer's Signature: _____ Date: _____</p>				<p align="center">Comments / Recommendations:</p> <p>Issue 06094/T21 Permit Issue Date: TBD Permit Expiration Date: TBD</p>																																																			

1. Purpose of Application:

Duke Energy Progress, LLC - W. H. Weatherspoon Plant (Duke – Weatherspoon) currently operates under Title V Air Quality Permit 06094T20, with an expiration date of August 31, 2017. Duke – Weatherspoon submitted this permit application in order to renew the Title V permit. Because this application was received at least nine months before the expiration date, the current permit will remain in effect, regardless of expiration date, until this application is processed.

2. Facility Description:

Based on the most recent inspection report¹, this facility was originally constructed in 1949 and equipped with two (later expanded to three) coal-fired boilers and four combustion turbines. The coal-fired boilers have been removed (see review for Permit T19²). The remaining turbines "...are now used occasionally by Duke for peaking."

3. History/Background Since the Previous Permit Renewal:

- August 6, 2012 Permit T17 issued. This action renewed the permit.
- May 29, 2013 Permit T18 issued. This action changed the facility name on the permit.
- November 19, 2013 Application .13B received. This was an application for a minor modification.
- May 26, 2015 Permit T19 issued in response to application .13B. This action removed sources and permit conditions related to the coal boilers. Furthermore, it removed references to the Acid Rain Permit because this was no longer required.
- October 26, 2015 Permit T20 issued. This action changed the facility name on the permit.

4. Application Chronology:

- November 22, 2016 Application .16A received in Raleigh Central Office.
- January 13, 2017 An initial draft of the permit and associated review were sent to DAQ staff (Tom Anderson, Lori Phillips, Samir Parekh, Greg Reeves, and Joshua Harris) and Duke staff (Ann Quillian). For a summary of comments received, see Attachment 2.
- XXXX Public / EPA notice.
- XXXX Permit issued.

5. Permit Modifications/Changes and TVEE Discussion:

The list of changes to the permit can be found in Attachment 1.

1 Joshua Harris, August 26, 2016

2 Ed Martin, May 26, 2015

6. Regulatory Review:

Duke - Weatherspoon is subject to the following regulations, in addition to the requirements in the General Conditions:

- 15A NCAC 02D .0516 "Sulfur Dioxide from Combustion Sources"
- 15A NCAC 02D .0521 "Control of Visible Emissions"
- 15A NCAC 02D .1100 "Control of Toxic Air Pollutants"
- 40 CFR Part 63, Subpart ZZZZ (aka MACT for reciprocating internal combustion engines)
- 40 CFR Part 97, Subparts AAAAA, BBBB, and CCCCC (aka Cross State Air Pollution Rule)

An extensive review for each applicable regulation is not included in this document, as the facility's status with respect to these regulations has not changed. The permit will be updated to reflect the most current stipulations for all applicable regulations. Regulatory changes are covered below:

a. 15A NCAC 02D .2400 "Clean Air Interstate Rule" [CAIR]

According to 40 CFR 52.35(f) and 52.36(e), CAIR no longer applies as of January 1, 2015. This rule has been replaced by CSAPR. Because the rule no longer applies, all references thereto have been removed from the permit.

On February 1, 2016, the rules under 15A NCAC 02D .2400 expired. Therefore, references to those rules have also been removed from the permit.

b. Cross State Air Pollution Rule [CSAPR]

CSAPR (specifically, 40 CFR Part 97, Subparts AAAAA, BBBB, and CCCCC) was originally scheduled to take effect on January 1, 2012. This rule was planned as a replacement for CAIR. However, CSAPR was challenged in court and initially vacated by the DC Circuit Court. Legal issues were finally resolved in April 2014, when the US Supreme Court reversed that decision. Because the regulation was delayed by court proceedings, the effective date of the rule was moved to January 1, 2015.

Under this rule, each turbine at this facility is considered a "large electric generating unit", per 40 CFR 52.34. This rule and all requirements thereof are considered Federal-enforceable only. Compliance will be determined by the US EPA, not NC DAQ. A reference to this rule has been added to the permit.

7. NSPS, MACT/GACT, PSD/NSR, 112(r), RACT, CAM:

a. 40 CFR Part 60: New Source Performance Standards (NSPS)

1. *Subparts GG "Stationary Gas Turbines" and KKKK "Stationary Combustion Turbines"*

According to 40 CFR 60.330(a), NSPS Subpart GG applies to turbines constructed or reconstructed after October 3, 1977.

According to 40 CFR 60.4305, NSPS Subpart KKKK applies to turbines constructed or reconstructed after February 18, 2006.

Each turbine at this facility was constructed before 1977. Furthermore, no turbine has been reconstructed according to the definitions in either NSPS. Therefore, neither NSPS applies to any turbine at this facility.

2. *Subpart IIII "Stationary Compression Ignition Internal Combustion Engines"*

According to 40 CFR 60.4200(a)(2), this rule applies to stationary internal combustion engines constructed after July 11, 2005.

Each engine at this facility was constructed before 2005. Therefore, this rule does not apply.

b. 40 CFR Part 63: Maximum/Generally Available Control Technology (MACT/GACT)

With the removal of the coal-fired boilers, Duke – Weatherspoon is no longer considered a Major Source of HAP. Furthermore, this facility does not limit emissions in order to avoid Major Source status.

1. *Subpart YYYY "Stationary Combustion Turbines"*

According to 40 CFR 63.6085, this rule only applies to turbines located at major sources of HAP. This facility is not a major source; therefore, this rule does not apply.

2. *Subpart ZZZZ "Stationary Reciprocating Internal Combustion Engines"*

This rule applies to all stationary internal combustion engines, regardless of size or major source status. The requirements of the rule change based on several factors (e.g. fuel type, emergency use, construction date).

Based on the size and status of the engines at this facility, both engines have the same general requirements:

- Install a non-resettable hour meter;
- Perform regular maintenance (e.g. change belts and oil);
- Limit operation for maintenance and non-emergency use;
- Use low-sulfur fuel; and
- Operate with good safety and pollution control practices.

Both of the engines subject to this rule (ES-18 and ES-24) have been moved to the Insignificant Activity list because their potential emissions are less than 5 ton/yr per 02Q .0503(8). Therefore, the permit will not include a permit stipulation for this rule. This change to the permit does not affect Duke – Weatherspoon's compliance requirements for this rule.

c. Prevention of Significant Deterioration (PSD)

This facility has not been reviewed for PSD. Furthermore, this facility has not taken limits in order to avoid triggering a PSD review.

d. Section 112(r) of the Federal Clean Air Act

The facility does not appear to store any 112(r)-subject materials above their respective thresholds. Therefore, the facility does not have any increased requirements under Section 112(r) of the Clean Air Act.

e. Reasonably Available Control Technology (RACT)

The facility is not located in an area of ozone nonattainment, therefore RACT does not apply.

f. Compliance Assurance Monitoring (CAM)

CAM potentially applies to emission sources using control devices to comply with emission limits.

Duke – Weatherspoon does not use any control devices. Therefore, CAM does not apply.

8. Toxic Air Pollutants

This facility has previously been reviewed for TAP emission rates. The modeled emission rates are included in the permit as emission limits.

This permit renewal will not require an analysis of TAP emission rates.

9. Acid Rain Permit

With the removal of the coal-fired boilers, this facility is no longer required to operate under a Title IV Acid Rain Permit.

10. Facility Emissions Review

For a historical summary of emissions from this facility, see the table on the first page of this review.

This renewal is not expected to change potential emissions from this facility.

11. Compliance Status

a. Notices of Violation/Recommendation for Enforcement since the previous renewal

None.

b. Inspection status

This facility was most recently inspected by Joshua Harris on August 23, 2016. Duke – Weatherspoon appeared to be in compliance with the Title V permit at the time of that inspection.

12. Other Regulatory Concerns

A PE seal was not required for this permit renewal.

A zoning consistency form was not required for this permit renewal.

13. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 2Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA.

Also pursuant to 2Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above.

14. Recommendations

Issue permit 06094T21.

DRAFT

Change List

Page(s)*	Section*	Description of Change(s)
Throughout	Throughout	<ul style="list-style-type: none"> Updated dates/permit numbers/application numbers. Updated authorized official. Fixed/updated formatting.
n/a	Insignificant Activities List	<ul style="list-style-type: none"> Moved the following sources to the Insig. List: ES-18, ES-24
3	Permitted Emission Source List	<ul style="list-style-type: none"> Removed ES-18 and ES-24 because they qualify as insignificant sources.
	2.1 A.	<ul style="list-style-type: none"> Removed references to CAIR. Added references to CSAPR.
	2.1 A.3.	<ul style="list-style-type: none"> Clarified that the limits for each turbine are the same.
	2.1 A.4.	<ul style="list-style-type: none"> Added permit condition for CSAPR
	2.1 B. (former)	<ul style="list-style-type: none"> Removed this section because all of the sources it covered have been moved to the Insig. List.
	2.2 (former)	<ul style="list-style-type: none"> Removed this section because CAIR has expired.
	3.	<ul style="list-style-type: none"> Updated General Conditions to v4.0.

* This refers to the current permit unless otherwise stated.

Comments Received on Initial Draft

- Lori Phillips, by email on January 18, 2017
 1. In the review, the section for MACT Subpart ZZZZ should note why the generators are being moved to the insignificant activities list.

Response: Done.

2. Lori pointed out typos in the permit and review.

Response: Fixed.

- Ann Quillian, by email on February 2, 2017
 1. Ann updated the authorized official for this facility.

Response: Done.

DRAFT